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Non-Destructive Evaluation of 2-Mercapto Substituted Pyrimidine Derivatives in Different Concentration and Different Percentages in Dioxane-Water Mixture

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Abstract : Science and technology of ultrasonic is widely used in recent years for industrial and medicinal application. The acoustical properties of 2-mercapto substituted pyrimidines viz.,2- Mercapto-4-(2',4' –dichloro phenyl) – 6-(2' – hydroxyl -4' –methyl-5' –chlorophenyl) pyrimidine and 2 –Mercapto – 4-(4' –chloro phenyl) – 6-(2' – hydroxyl -4' –methyl-5' –chlorophenyl) pyrimidine have been investigated from the ultrasonic velocity and density measurements at different concentration and different % in dioxane-water mixture at 305K. The adiabatic compressibility (βs), acoustic impedance (Z), intermolecular free length (Lf), apparent molar volume(ϕv) and relative association (RA) values have been calculated from the experimental data of velocity and density measurement at concentration range of 0.01- 0.000625 mol/lit and 70%,75% and 80% dioxane water mixture. These above parameters are used to discuss the structural and molecular interactions.

Keywords : acoustical parameters, ultrasonic velocity, density, 2-mercapto substituted pyrimidine derivative, dioxane-water mixture
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